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(54) Mascara applicator

(57) A mascara applicator has a shaft 10 with two ends and a longitudinal axis, a handle 15 located at one end and an elongated radial bristle brush 16 located at the other end. The bristles of the brush are arranged in alternating longitudinal or spiral rows of relatively long and short bristles, the long bristles serving to comb and separate eyelashes and the short bristles applying mascara thereto.

The applicator may be used in conjunction with a container 20 having a mascara reservoir 21, the container neck being closed by the handle 15, and the container also including a wiper 23 which on removal of the applicator removes excess mascara from the long bristles but not from the short bristles.

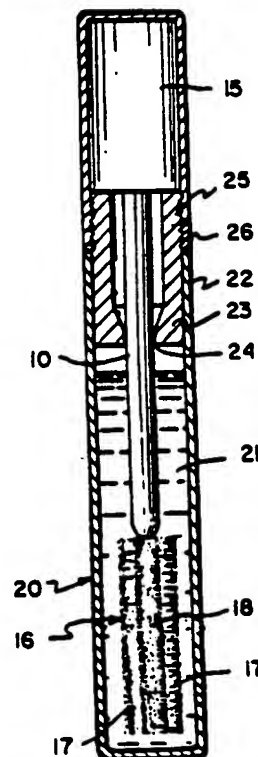


FIG. 8

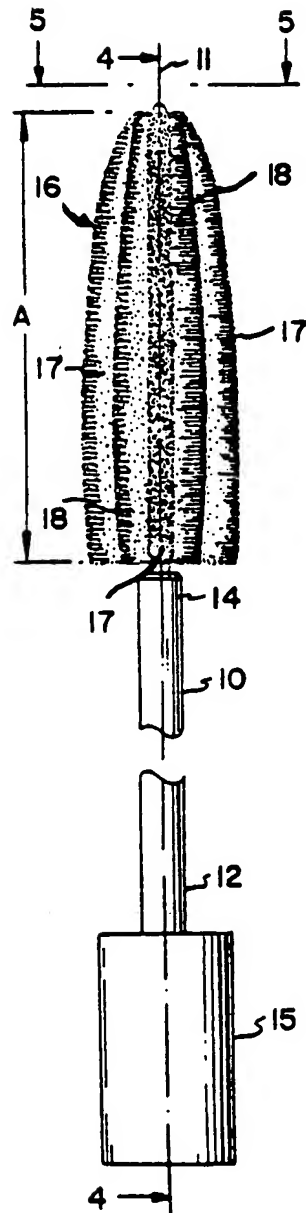


FIG.1

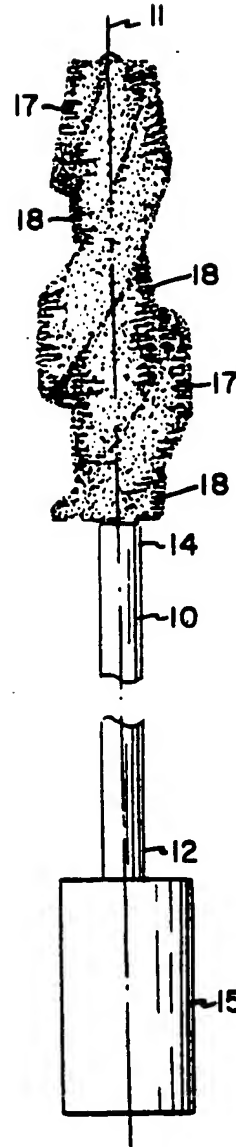


FIG.2

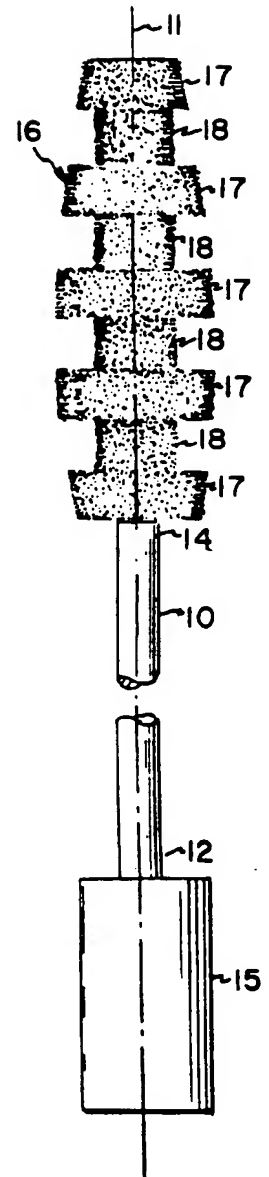


FIG.3

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FIG. 4

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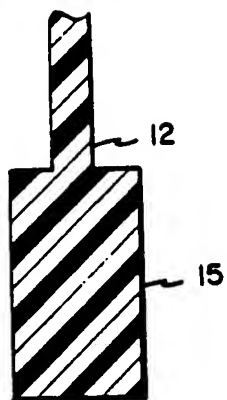
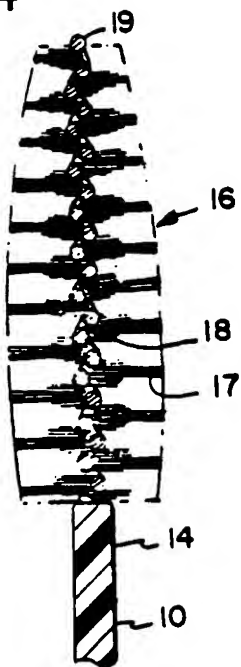


FIG. 5

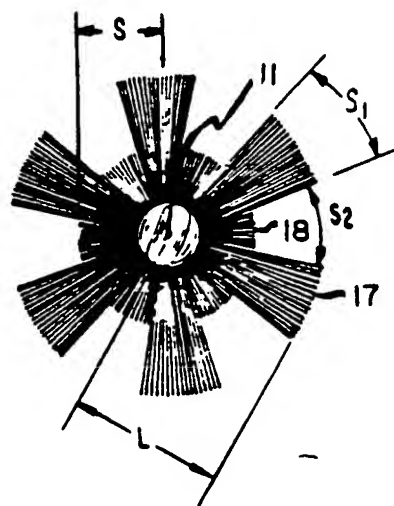


FIG. 6

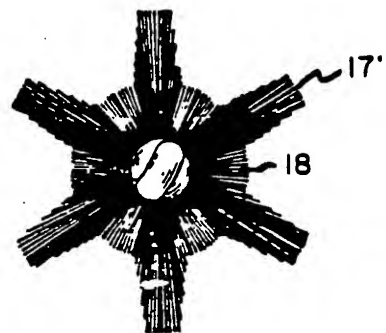
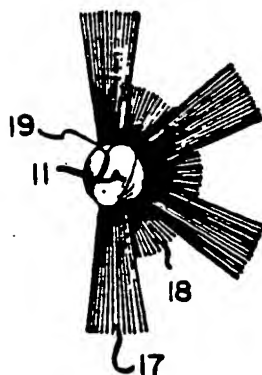


FIG. 7



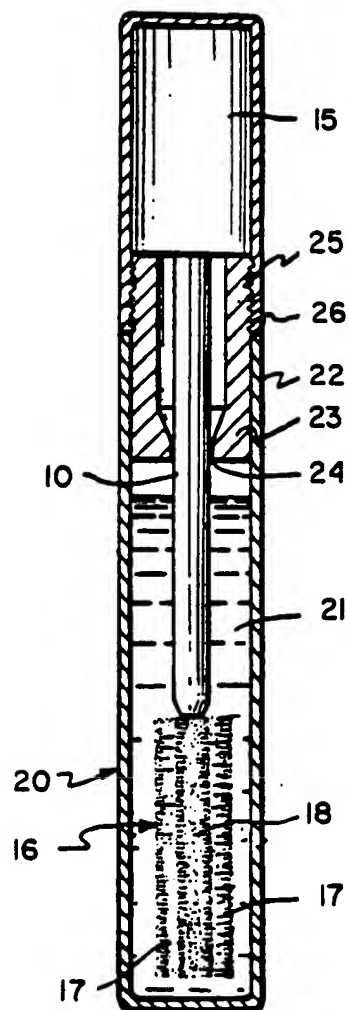


FIG. 8

## SPECIFICATION

## Improved mascara applicator

5 The present invention is an improved mascara applicator capable of uniformly applying mascara to eyelashes. Clumping and excess mascara on the eyelashes is largely avoided. The eyelashes appear naturally thicker and longer

10 without sticking together.

During recent years mascara has become an important make-up accessory. Numerous applicators and application systems have been designed to apply mascara for increasing curl, color and length of the eyelashes. However many such applicators cannot properly apply the mascara. They cause a build up of excessive amounts of mascara on the lashes, so that the lashes stick together, resulting in an unnatural lash appearance. Quite often the eyelashes are merely pushed back and clumped; they are not combed, uniformly coated and separated.

The present invention provides for a mascara applicator which uniformly applies mascara, while simultaneously separating and combing the eyelashes.

The present invention comprises an applicator for combing the eyelashes and uniformly coating mascara thereon comprising: (a) a shaft having a longitudinal axis and first and second ends, (b) a handle at said first end of said shaft, and (c) an elongated radial bristle brush at said second end of said shaft, wherein the bristles of said brush are arranged in alternating longitudinal or spiral rows of relatively long and short bristles. The rows of short bristles apply the mascara, while the rows of long bristles simultaneously comb and separate the lashes.

The invention is illustrated by reference to the drawings, in which:

Figure 1 is a longitudinal view of an applicator in accordance with the invention having alternating longitudinal rows of long and short bristles;

Figure 2 is a longitudinal view of an applicator in accordance with the invention having alternating spiral rows of long and short bristles;

Figure 3 is a longitudinal view of an applicator that is not in accordance with the invention;

Figure 4 is a sectional view of the applicator of figure 1 taken along section 4-4;

Figure 5 is an end end view of the applicator of Figure 1 taken along section 5-5;

Figure 6 is an end view similar to Figure 5 showing an alternate arrangement of the bristles,

Figure 7 is an end view similar to Figure 5 showing another arrangement of the bristles; and

Figure 8 is a sectional view of a cosmetic package in accordance with the invention.

Figures 1 and 5 illustrate a preferred embodiment of the inventive mascara applicator. The applicator has a shaft 10 with a longitudinal axis 11, a first end 12 and second end

14. For easy application and control, a handle 15 is located at first end 12 of shaft 10. For applying mascara to the eyelashes, an elongated radial bristle brush 16 is located on second end 14 of shaft 10. Brush 16 has bristles arranged radially around axis 11, as best seen in Figure 5. The bristles are very thin hair or hair-like fibre made for example, of natural hair, such as horse hair or synthetic fibres, such as nylon. The thickness of the individual fibres is preferably from 0.07 to 0.13 mm.

A key feature of the invention is that the bristles of brush 16 are arranged in alternating longitudinal or spiral rows of relatively long and short bristles. In Figure 5, there are six rows of long bristles 17 and six rows of short bristles 18. These rows of long and short bristles alternate as shown in Figure 5. The rows preferably are arranged longitudinally around longitudinal axis 11, i.e., each row of bristles is parallel to longitudinal axis 11, as shown in Figure 1. Alternately the rows of bristles may be spirally arranged around axis 11 as shown in Figure 2.

With the arrangement of Figures 1 or 2, as the user of the brush twirls it about axis 11 across her lashes, the lashes alternately encounter rows of short and long bristles. The short bristles 18, which contain mascara, apply mascara to the lashes. The long bristles, which contain very little mascara in those parts extending beyond the short bristles, simultaneously comb and separate the lashes, resulting in uniform coating and separation of the lashes for a highly desirable, natural appearance. The manner in which the short bristles are impregnated with mascara without so impregnating the ends of the long bristles will be discussed later. Notice, however, that if the alternating rows of long and short bristles are arranged as shown in Figure 3, i.e., in other than longitudinal or spiral form, this beneficial effect will not be achieved.

The ends of the of long and of the short bristles may form circular or elliptical arcs around longitudinal axis 11. In Figure 5, they form circular arcs. The arcs of the long bristles  $S_1$  and short bristles  $S_2$  are preferably  $20^\circ$  to  $75^\circ$ . Preferably there are 3 to 8 rows of long bristles and 3 to 8 rows of short bristles. More preferably there are six rows of long and six rows of short bristles, and each arc is  $30^\circ$ , as shown in Figure 5.

The length L (see Figure 5) of the long bristles is preferably 3.2 mm to 9.4 mm, more preferably 3.4 to 8.3 mm. The length S of the short bristles is preferably 3.1 mm to 4.7 mm, more preferably 3.4 to 4.1 mm. The length of the bristles is measured radially from longitudinal axis 11 to the ends of the bristles, as shown in Figure 5. The overall

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length A (see Figure 1) of the applicator is preferably 19 to 25.4 mm; more preferably 19.7 to 21 mm.

The bristles in a row need not all be of the same length. In Figure 6, the long bristles 17 have decreasing length as they approach the short bristles 18. For this embodiment of the invention, the measurements given above for the long bristles would apply to the longest bristles in each row of long bristles.

The inventive applicator is preferably constructed by twisting the bristles in a wire loop resulting in a spiral brush as shown in Figure 4. Here the wire is denoted by reference numeral 19. A portion of the bristles may then be cut away to yield alternating rows of long and short bristles.

The overall shape of the brush may be cylindrical, but preferably the long bristles taper to slightly shorter lengths toward the ends of the brush, as shown in Figures 1 and 2. The bristles need not radiate from axis 11 for a full 360°. In Figure 7 the bristles form a total arc of slightly more than 180°.

The inventive mascara applicator may be included in a cosmetic package as shown in Figure 8. A bottle 20 has a reservoir for mascara 21. The bottle is adapted to receive brush 16 and shaft 10 through its neck 22. A wiper 23 having a small opening 24 is disposed in neck 22. The mascara applicator handle 15 is adapted to close the opening. In Figure 8, wiper 23 has external threads 25 and handle 15 has mating internal threads 26. Hence rotation of handle 15 causes internal threads 26 to overlap and mate with external threads 25, thereby closing the neck of the bottle, with part of shaft 10 and brush 16 disposed in the reservoir containing the mascara.

The applicator package of Figure 8 functions as follows. First the user unscrews handle 15, causing threads 25 and 26 to disengage from each other. She then pulls the handle away from the bottle, removing shaft 10 and brush 16 from the bottle. As brush 16 passes through opening 24 in wiper 23, excess mascara is removed from the parts of long bristles 17 that extend beyond the short bristles 18 and parts of the long bristles that are closest to the axis of the brush. The user then twirls brush 16 across her eyelashes. Mascara is deposited on to the lashes while the ends of long bristles 17 comb and separate the lashes, resulting in even application of the mascara, and a highly desirable natural look.

## 60 CLAIMS

1. An applicator for combing the eyelashes and uniformly coating mascara thereon comprising:

(a) a shaft having a longitudinal axis and first and second ends,

(b) a handle at said first end of said shaft, and

(c) an elongated radial bristle brush at said second end of said shaft,

70 wherein the bristles of said brush are arranged in alternating longitudinal or spiral rows of relatively long and short bristles.

2. The applicator of claim 1 wherein the rows of relatively long and short bristles for arcs around the longitudinal axis of said shaft of from 20° to 75°.

3. The applicator of claim 1 or claim 2 wherein said brush contains from 3 to 8 rows of long bristles and from 3 to 8 rows of short bristles.

4. The applicator of claim 3 wherein said brush contains six rows of short bristles and six rows of long bristles, each of said rows forming an arc around the longitudinal axis of said shaft of 30°.

5. The applicator of any one of claims 1, 2, 3 and 4 wherein said long bristles extend radially from the longitudinal axis of the shaft for 3.2 to 9.4 mm and said short bristles extend radially from said longitudinal axis for 3.2 to 4.7 mm.

6. The applicator of claim 5 wherein said long bristles extend radially from the longitudinal axis of the shaft for 3.4 to 8.3 mm and said short bristles extend radially from said longitudinal axis for 3.4 to 4.1 mm.

7. The applicator of any one of claims 1 to 6 wherein said brush has a length of 19 to 25.4 mm.

8. The applicator of claim 7 wherein said brush has a length of 19.7 to 21 mm.

9. The applicator of any one of claims 1 to 8 wherein the rows of relatively long and short bristles are arranged longitudinally around the longitudinal axis of said shaft.

10. The mascara application package comprising a bottle having a reservoir containing mascara adapted to receive said brush and a portion of said shaft, a neck having an opening, a wiper disposed in said neck, and the mascara applicator of any one of claims 1 to 9 wherein the handle of said applicator is adapted to close the opening of the neck of said bottle with the applicator and part of the shaft disposed in said reservoir.

11. An applicator for combing the eyelashes and uniformly coating mascara thereon, substantially as hereinbefore described with reference to and as shown in Figures 1, 4 and 5; Figure 2; Figures 1 and 6 or Figures 1 and 7 of the accompanying drawings.

12. A mascara application package substantially as hereinbefore described with reference to and as shown in Figure 8 of the accompanying drawings.